

STUDIES OF THE BYRON BOG IN SOUTHWESTERN ONTARIO XLIX.

ADDITIONAL OBSERVATIONS ON THE INSECTS OF REDMOND'S POND¹

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At the center of the Byron Bog in London, Ontario, lies Redmond's Pond (Judd, 1957). Since 1956 studies of the aquatic insects in the pond have been made. In 1956 and 1957 the populations of insects emerging as adults from the water were studied by using floating traps which trapped the insects at the surface (Judd, 1958, 1961). In 1961 a study of insects which remain in the water throughout their life-cycle was made by collecting the insects with a dip-net (Judd, 1963, 1968). Some insects collected in 1961 were not reported upon previously and an account of them is included herewith. The insects were collected by Mr. M. S. Beverley. In 1962 a collection of insects in the families Nepidae and Belostomatidae was made by Mr. K. P. Butler. Also included in this account are reports of aquatic insects from the moss surrounding the pond and from temporary pools in woods east of the pond.

In 1962 insects were collected from the west end of Redmond's Pond, from April 17 to November 24. On December 1 one-half inch of ice formed over the pond and collecting was suspended. Each day five sweeps through the water were made by swinging the dip-net through the water at arm's length, the net having a circular mouth 10 inches in diameter. The insects so collected were pinned or preserved in fluid.

Beetles of the family Helodidae were identified by J. M. Kingsolver, Agricultural Research Service, Department of Agriculture, Beltsville, Maryland and of the family Carabidae by G. E. Ball, University of Alberta, Edmonton. Other insects were identified by the writer, using appropriate keys.

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COLEOPTERA

Carabidae

Bembidion versicolor LeConte - One beetle was collected on September 22, 1961. Its presence at Redmond's Pond is in accord with the report of Blatchley (1910) that beetles of the genus *Bembidion* occur for the most part along the banks of streams, ponds and lakes. *B. versicolor* has been reported in Indiana (Blatchley, 1910) and Quebec (Chagnon and Robert, 1962).

Bembidion muscicola Hayward - One beetle was collected on August 29, 1961 at a temporary pool east of Redmond's Pond. This species has been reported from Michigan and Illinois (Blatchley, 1910) and from Quebec (Chagnon and Robert, 1962).

Dyschirius integer LeConte - One beetle was collected from the pond on July 30, 1961. Its presence at the pond is in accord with the report of Dillon and Dillon (1961) that beetles of this genus are found near water.

Helodidae

Cyphon ?variabilis Thunb. - One beetle was taken from the pond on May 25, 1961. In addition, four were found in temporary pools in the *Sphagnum* moss surrounding the pond on May 12, 14, 15, 20 and three in a temporary pool in woods east of the pond on May 12. *C. variabilis* was collected from Redmond's Pond in 1957 (Judd, 1961).

Nepidae

Ranatra fusca Palisot de Beauvois - From May 10 to September 15, 1962, thirty-eight adults were collected from the pond. Five nymphs were collected, three on July 3 and one each on July 7 and August 27. The presence of nymphs throughout the season is in accord with the report of Torre-Bueno (1906) that the life cycle of *Ranatra* is about 70 days. One adult was previously collected from Redmond's Pond by Judd (1963).

HETEROPTERA

Belostomatidae flumineum Say - Twenty-nine adults were collected from the pond from May 18 to October 9, 1962. The first three collected, on May 18, 22 and 27, were males bearing clusters of eggs on their backs. Some of the eggs on the male collected on May 22 had small nymphs projecting from them. This species was previously collected from Redmond's Pond in 1961 by Judd

(1963). Its presence is in accord with the report of Menke (1958) that *B. flumineum* is widely distributed in North America.

Lethocerus americanus (Leidy) - Three adults were collected from the pond, one each on May 29, August 8 and September 17, 1962. The presence of this species in Redmond's Pond is in accord with the reports of Menke (1963) and Brooks and Kelton (1967) that it occurs in ponds and quiet streams with abundant aquatic vegetation. It is widely distributed in the northeastern United States and adjacent parts of Canada (Menke, 1963).

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ABSTRACT. Aquatic insects including Carabidae (*Bembidion versicolor*, *B. muscicola*, *Dyschirius integer*), Helodidae (*Cyphon ?variabilis*), Nepidae (*Ranatra fusca*) and Belostomatidae (*Belostoma flumineum*, *Lethocerus americanus*) were collected from Redmond's Pond in 1961 and 1962. Observations on the seasonal distribution of the various species are included. W. W. Judd, Department of Zoology, University of Western Ontario, London, Ontario, Canada.

Descriptors: Carabidae, Helodidae, Nepidae, Belostomatidae of Byron Bog.